

---

## HANTAVIRUS PULMONARY SYNDROME (HPS)

---

**Clinical Features:** Typically, HPS begins nonspecifically with fever, myalgia, gastrointestinal complaints, headache, chills, and cough. This is followed by an abrupt onset of respiratory distress, hypotension, and pulmonary edema leading to respiratory failure. Mortality rate for HPS is approximately 40 – 50%. Survivors rapidly recover from the acute illness, but may have lingering pulmonary effects. Normal lung function will usually return.

**Causative Agent:** Multiple hantaviruses. In North America the most common is the *Sin Nombre* virus. The deer mouse is the primary reservoir for the virus.

**Mode of Transmission:** Inhalation of aerosolized rodent excreta is the presumed method of infection. The white-footed deer mouse (*Peromyscus maniculatus*) is the rodent vector for the virus; antibodies have also been found in other species of rodents.

**Incubation Period:** Ranges from several days to six weeks, usually about 2 weeks.

**Period of Communicability:** None. Human to human transmission does not occur.

**Public Health Significance:** Infections may be prevented through the control of rodents.

**Reportable Disease in Kansas Since:** 1997

### **Clinical Criteria**

An illness characterized by one of the following:

- A febrile illness (temperature > 101.0 °F) characterized by bilateral diffuse interstitial edema that may radiographically resemble ARDS, with respiratory compromise requiring supplemental oxygen, developing within 72 hours of hospitalization, and occurring in a previously healthy person; **OR**
- An unexplained respiratory illness resulting in death, with an autopsy examination demonstrating noncardiogenic pulmonary edema without an identifiable cause.

### **Laboratory Criteria for Surveillance Purposes**

- Detection of hantavirus-specific IgM or rising titers of hantavirus-specific IgG; **OR**
- Detection of hantavirus-specific ribonucleic acid sequence by polymerase chain reaction in clinical-specimens; **OR**
- Detection of hantavirus antigen by immunohistochemistry.

### **Surveillance Case Definitions**

- **Confirmed:** A clinically compatible case that is laboratory confirmed.

### *Epidemiology and Trends*

**2005 Kansas Count: 1**

	<i>Rate per 100,000</i>	<i>95% CI</i>
Kansas Rate	<0.1	(0 - 0.1)
U.S. Rate (2004)	<0.1	NA

In 2005 there was one confirmed, non-fatal case of hantavirus pulmonary syndrome. The three-year median for 2002-2004 was 1.5 cases. Since 1993, there have been 0 - 4 cases reported annually, for a total of 19 cases. Six (32%) of these cases have been fatal.